

I claim:

1. A two-panel reflective liquid crystal display projection system comprising:

a screen adapted for displaying red, blue and green light;

a polarized light beam splitter;

a first liquid crystal display panel that receives light from said polarized light beam splitter and which provides a sequence of red, blue and green light to said screen; and

a second liquid crystal display panel that receives light from said polarized light beam splitter and which provides a sequence of red, blue and green light to said screen,

wherein said sequence provided by said second liquid crystal display panel is provided simultaneous to and staggered with respect to said sequence provided by said first liquid crystal display panel, such that at least two colors of red, blue and green light are simultaneously displayed on said screen.

2. The system of claim 1 further comprising:

a light source that provides red, green and blue light; and

a color switch adapted for rotating an orientation of red, blue and green light incident thereon from said light source and passing said light to said polarized light beam splitter.

3. The system of claim 1 further comprising:

a color switch adapted for rotating an orientation of red, blue and green light incident thereon from said polarized light beam splitter and passing said light to said screen.

4. The system of claim 1 wherein said first liquid crystal display panel provides a sequence of green light for two thirds of a frame time, then provides blue light for two thirds of a frame time, and then provides red light for two thirds of a frame time, and wherein said second liquid crystal display panel simultaneously provides a sequence of blue light for one third of a frame time, then provides red light for two thirds of a frame time, then provides green light for two thirds of a frame time, and then provides blue light for one third of a frame time, such that at least two of said red, blue and green light is projected on said screen at a time.
5. The system of claim 4 wherein light projected on said screen comprises two color artifacts per frame time.
6. The system of claim 2 wherein said light source provides S-oriented red, blue and green light, said polarized light beam splitter re-directs S-oriented light and passes P-oriented light from said color switch, and wherein said polarized light beam splitter re-directs S-oriented light and passes P-oriented light provided from said first and second liquid crystal display panels.
7. The system of claim 2 further comprising:
a polarizer positioned between said light source and said color switch; and
an analyzer positioned between said polarized beam splitter and said screen.
8. The system of claim 2 wherein said color switch passes light unrotated when said switch is powered, and wherein said color switch changes a rotation of light passing therethrough when said switch is unpowered.
9. The system of claim 8 wherein said color switch transitions from rotating to non-rotating operation in 20 μ sec.

10. The system of claim 1 wherein said first liquid crystal display panel provides said sequence of red, blue and green light to said screen through said polarized light beam splitter, and wherein said second liquid crystal display panel provides said sequence of red, blue and green light to said screen through said polarized light beam splitter.

11. A two-panel reflective liquid crystal display projection system comprising:

a light source that provides light having a plurality of color bands and a predetermined orientation;

a polarized light beam splitter adapted for passing light having a first predetermined orientation, and adapted for re-directing light having a second predetermined orientation;

a first color switch positioned between said light source and said polarized light beam splitter, said first color switch adapted for changing an orientation of a color band of light provided by said light source;

a first liquid crystal display panel positioned to receive said light re-directed by said polarized light beam splitter, said first liquid crystal display panel adapted for rotating an orientation of a color band of light received from said polarized light beam splitter;

a second liquid crystal display panel positioned to receive said light passed by said polarized light beam splitter, said second liquid crystal display panel adapted for rotating an orientation of a color band of light received from said polarized light beam splitter; and

a second color switch adapted for rotating an orientation of a color band of light incident on said second color switch, wherein said second color switch is positioned to

receive light provided simultaneously from said first and second liquid crystal display panels.

12. The system of claim 11 further comprising a screen that simultaneously shows at least two color bands of light received from said second color switch.

13. The system of claim 11 wherein said light source simultaneously provides color bands chosen from the group consisting of green light, red light, and blue light.

14. The system of claim 11 wherein said first and second liquid crystal display panels simultaneously each reflect different ones of said color bands of light.

15. The system of claim 11 wherein said first color switch rotates an orientation of one of said color bands of light passing there through, and wherein said second color switch simultaneously rotates an orientation of two of said color bands of light passing there through.

16. The system of claim 11 wherein said second color switch receives light from said first and second liquid crystal display panels through said polarized light beam splitter.

17. A method of providing an image having at least two colors simultaneously projected at a given time, comprising the steps of:

providing to a first color switch, light having at least three color bands, each color band having an orientation;

operating said first color switch to rotate said orientation of at least one of said color bands;

providing a beam splitter for receiving light from said first color switch, said beam splitter passing light having a first orientation and redirecting light having a second orientation;

providing a first liquid crystal display panel for receiving light passed by said beam splitter, and operating said first liquid crystal display panel to rotate an orientation of a color band received by said first liquid crystal display panel;

providing a second liquid crystal display panel for receiving light redirected by said beam splitter, and operating said second liquid crystal display panel to rotate an orientation of a color band received by said second liquid crystal display panel; and

providing a second color switch for receiving light from said first and second liquid crystal display panels, and operating said second color switch to rotate said orientation of a color band received by said second color switch.

18. The method of claim 17 further comprising providing a screen, and providing said screen simultaneously with at least two color bands of light from said second color switch.

19. The method of claim 17 further comprising the step of operating said first color switch to rotate said orientation of a different one of said at least one of said color bands.

20. The method of claim 17 comprising the steps of operating said first and second color switches in the sequence shown in FIG. 3.